19-447251 000 00RR

Energy Efficiency Design Summary: Prescriptive Method

(Building Code Part 9, Residential)

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

For use by Principal Authority	
Application No:	Model/Certification Number: CELESTIAL 1-12, EL-1

A. Project Information

Building number, street name	Unit number	Lot/Con
		12

Municipality	Postal code	Reg. Plan number / other description
City of Brampton		43M-2057

B. Prescriptive Compliance [indicate the building code compliance package being employed in this house design]

SB-12 Prescriptive (input design package): Package: A1 Table: _____

C. Project Design Conditions

Climatic Zone (SB-1):	Heating Equipment Efficiency	Space Heating Fuel Source
☐ Zone 1 (< 5000 degree days)	☐ ≥ 92% AFUE	☐ Gas ☐ Propane ☐ Solid Fuel
☐ Zone 2 (≥ 5000 degree days)	☐ ≥ 84% < 92% AFUE	☐ Oil ☐ Electric ☐ Earth Energy

Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics
Area of walls = 396.0 m^2 or _____ ft^2	W, S & G % = 11.21%	☐ Log/Post&Beam ☐ ICF Above Grade ☐ ICF Basement ☐ Slab-on-ground ☐ Walkout Basement ☐ Air Conditioning ☐ Combo Unit ☐ Air Sourced Heat Pump (ASHP) ☐ Ground Sourced Heat Pump (GSHP)
Area of W, S & G = 44.4 m^2 or _____ ft^2	Utilize window averaging: ☐Yes ☐No	

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 12 2019
ATTACHED NOTES ARE PART OF APPROVED DRAWINGS
ALL WORK MUST COMPLY WITH OBC

D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

Energy Efficiency Substitutions

☐ ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5) & (6))

☐ Combined space heating and domestic water heating systems (3.1.1.2.(7) / 3.1.1.3.(7))

☐ Airtightness substitution(s)

Airtightness test required (Refer to Design Guide Attached)

☐ Table 3.1.1.4.B Required: _____ Permitted Substitution: _____

☐ Table 3.1.1.4.C Required: _____ Permitted Substitution: _____

Required: _____ Permitted Substitution: _____

Building Component	Minimum RSI / R values or Maximum U-Value(1)		Building Component	Efficiency Ratings
Thermal Insulation	Nominal	Effective	**Windows & Doors** Provide U-Value(1) or ER rating	
Ceiling with Attic Space	10.57	10.43	Windows/Sliding Glass Doors	1.6
Ceiling without Attic Space	5.46	4.87	Skylights/Glazed Roofs	2.8
Exposed Floor	5.46	5.25	**Mechanicals**	
Walls Above Grade	4.22	3.00	Heating Equip.(AFUE)	96%
Basement Walls	3.52	3.72	HRV Efficiency (SRE% at 0°C)	75%
Slab (all >600mm below grade)	-	-	DHW Heater (EF)	0.83
Slab (edge only ≤600mm below grade)	1.76	1.76	DWHR (CSA B55.1 (min. 42% efficiency))	42 # Showers 2
Slab (all ≤600mm below grade, or heated)	1.76	1.96	Combined Heating System	N/A

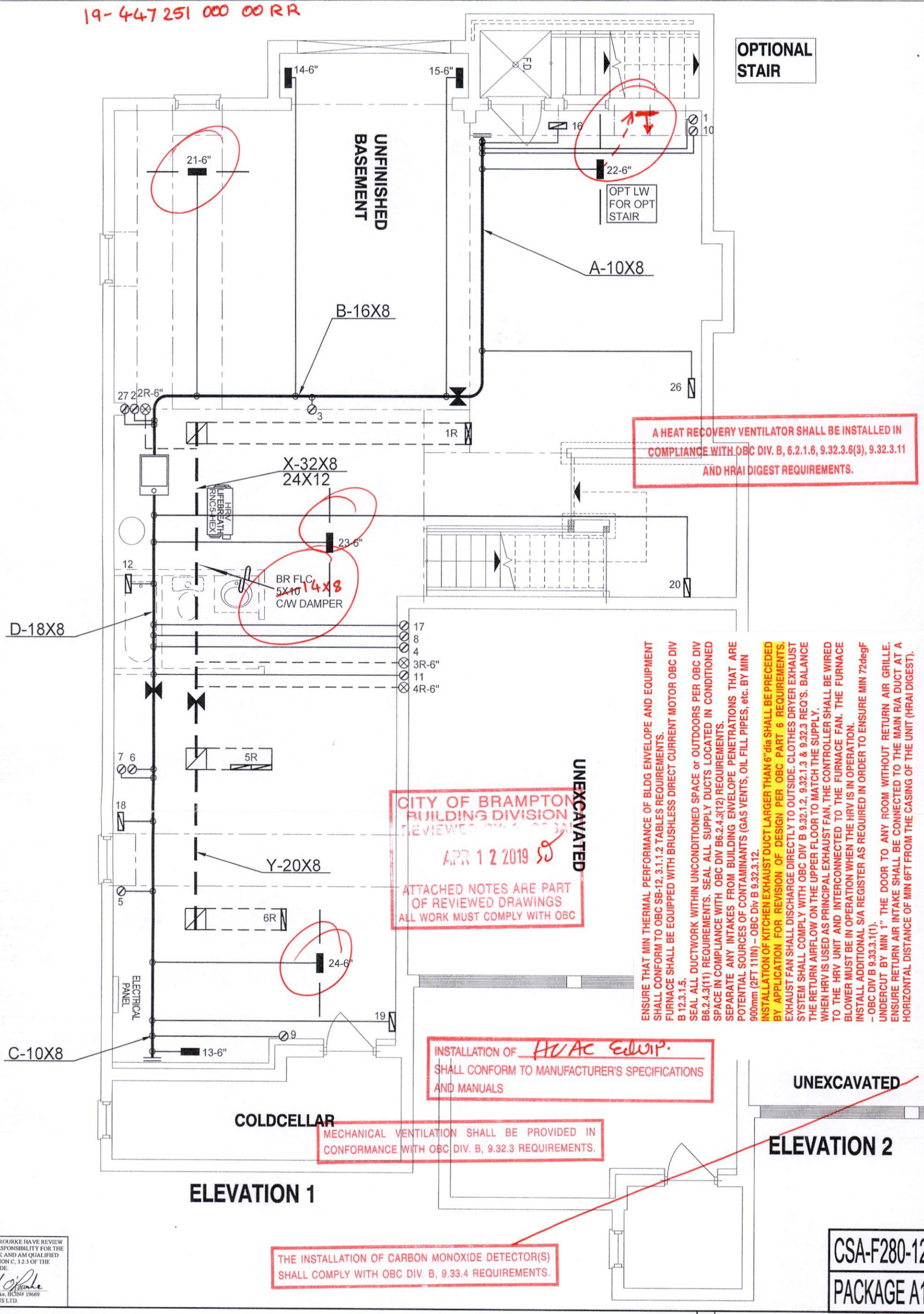
(1) U value to be provided in either W/(m^2•K) or Btu/(h•ft^2•F) but not both.

E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets the building code]

Qualified Designer Declaration of designer to have reviewed and take responsibility for the design work.

Name	BCIN	Signature
Walter Botter Jardin Design Group Inc.	21031 27763	

19-447251 000 00 RR



A HEAT RECOVERY VENTILATOR SHALL BE INSTALLED IN COMPLIANCE WITH OBC DIV. B, 6.2.1.6, 9.32.3.6(3), 9.32.3.11 AND HRAI DIGEST REQUIREMENTS.

ENSURE THAT MIN THERMAL PERFORMANCE OF BLDG ENVELOPE AND EQUIPMENT SHALL CONFORM TO OBC SB-12, 3.1.1.2 TABLES REQUIREMENTS.
FURNACE SHALL BE EQUIPPED WITH BRUSHLESS DIRECT CURRENT MOTOR OBC DIV B 12.3.1.5.
SEAL ALL DUCTWORK WITHIN UNCONDITIONED SPACE or OUTDOORS PER OBC DIV B6.2.4.3(11) REQUIREMENTS. SEAL ALL SUPPLY DUCTS LOCATED IN CONDITIONED SPACE IN COMPLIANCE WITH OBC DIV B6.2.4.3(12) REQUIREMENTS.
SEPARATE ANY INTAKES FROM BUILDING ENVELOPE PENETRATIONS THAT ARE POTENTIAL SOURCES OF CONTAMINANTS (GAS VENTS, OIL FILL PIPES, etc. BY MIN 900mm (2FT 11IN) – OBC Div B 9.32.3.12.
INSTALLATION OF KITCHEN EXHAUST DUCT LARGER THAN 6"dia SHALL BE PRECEDED BY APPLICATION FOR REVISION OF DESIGN PER OBC PART 6 REQUIREMENTS.
EXHAUST FAN SHALL DISCHARGE DIRECTLY TO OUTSIDE. CLOTHES DRYER EXHAUST SYSTEM SHALL COMPLY WITH OBC DIV B 9.32.1.2, 9.32.1.3 & 9.32.3 REQ'S. BALANCE THE RETURN AIRFLOW ON THE UPPER FLOOR TO MATCH THE SUPPLY.
WHEN HRV IS USED AS PRINCIPAL EXHAUST FAN, THE CONTROLLER SHALL BE WIRED TO THE HRV UNIT AND INTERCONNECTED TO THE FURNACE FAN. THE FURNACE BLOWER MUST BE IN OPERATION WHEN THE HRV IS IN OPERATION.
INSTALL ADDITIONAL S/A REGISTER AS REQUIRED IN ORDER TO ENSURE MIN 72degF – OBC DIV B 9.33.3.1(1).
UNDERCUT BY MIN 1" THE DOOR TO ANY ROOM WITHOUT RETURN AIR GRILLE.
ENSURE RETURN AIR INTAKE SHALL BE CONNECTED TO THE MAIN R/A DUCT AT A HORIZONTAL DISTANCE OF MIN 6FT FROM THE CASING OF THE UNIT (HRAI DIGEST).

CITY OF BRAMPTON
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REVIEWED BY
APR 12 2019
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INSTALLATION OF HVAC Equip.
SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS AND MANUALS

MECHANICAL VENTILATION SHALL BE PROVIDED IN CONFORMANCE WITH OBC DIV. B, 9.32.3 REQUIREMENTS.

THE INSTALLATION OF CARBON MONOXIDE DETECTOR(S) SHALL COMPLY WITH OBC DIV. B, 9.33.4 REQUIREMENTS.

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT	⊘	SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

No.	Description	Date
3.		
2.		
1.		

REVISIONS

Client
GREENYORK HOMES

Project Name
GRANELLI HOMES CORP
BRAMPTON, ONTARIO
M-2057 LOT 12
OPT 5 BED
CELESTIAL 1 3187 sqft

HVAC DESIGNS LTD.
375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdesigns.ca
Web: www.hvacdesigns.ca
Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

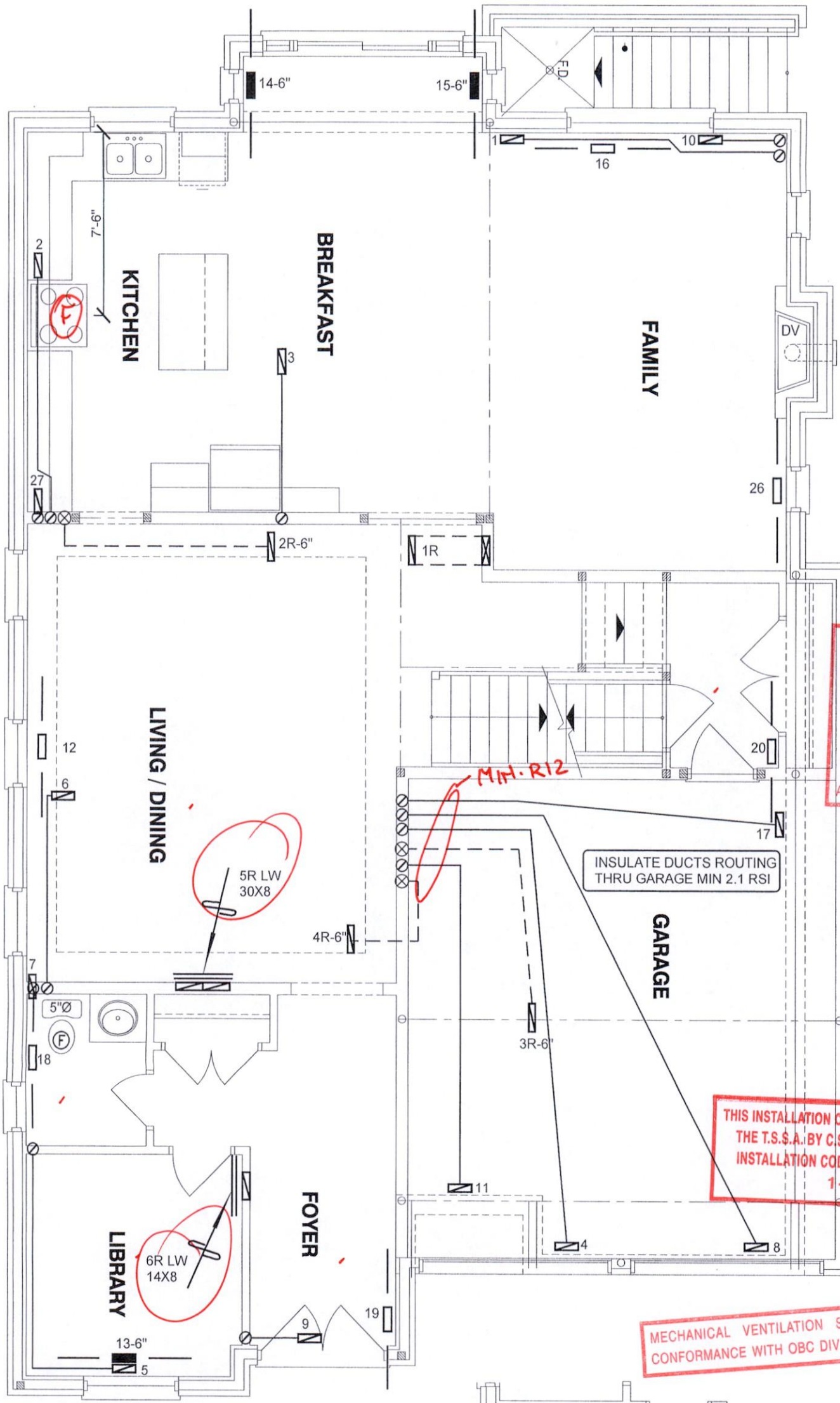
HEAT LOSS 60548 BTU/H	
UNIT DATA	
MAKE	CARRIER
MODEL	59SP5A-80-16-80
INPUT	80 MBTU/H
OUTPUT	78 MBTU/H
COOLING	3.0 TONS
FAN SPEED	1200 cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	13	4	3
1ST FLOOR	9	2	2
BASEMENT	4	1	0

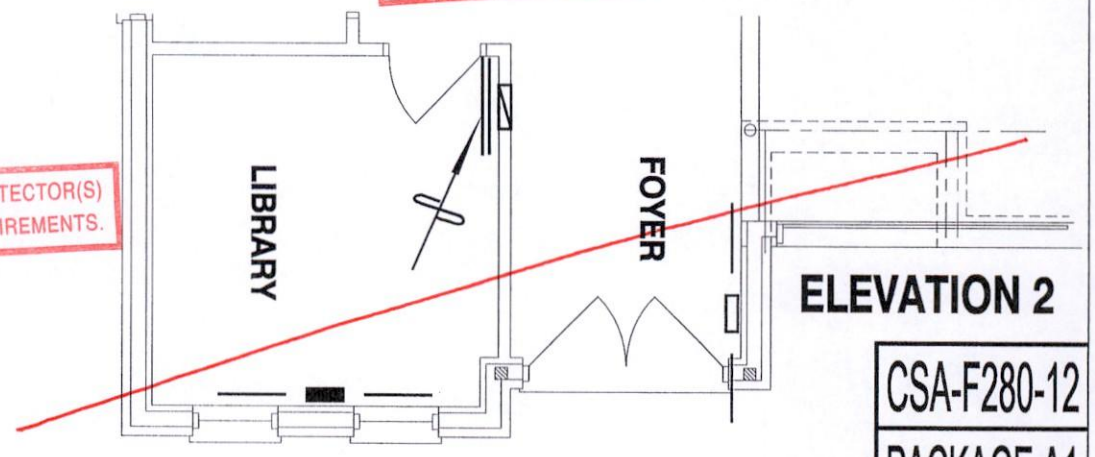
ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

Sheet Title
BASEMENT HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78994



ELEVATION 1



ELEVATION 2

CITY OF BRAMPTON
BUILDING DIVISION
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THIS INSTALLATION OF A GAS FIREPLACE IS REGULATED UNDER THE T.S.S.A. BY C.S.A. B149.1 NATURAL GAS AND PROPANE INSTALLATION CODE CALL ENBRIDGE FOR INSPECTION AT 1-800-785-1314

MECHANICAL VENTILATION SHALL BE PROVIDED IN CONFORMANCE WITH OBC DIV. B, 9.32.3 REQUIREMENTS.

THE INSTALLATION OF CARBON MONOXIDE DETECTOR(S) SHALL COMPLY WITH OBC DIV. B, 9.33.4 REQUIREMENTS.

CSA-F280-12

PACKAGE A1

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

No.	Description	Date
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REVISIONS

Client
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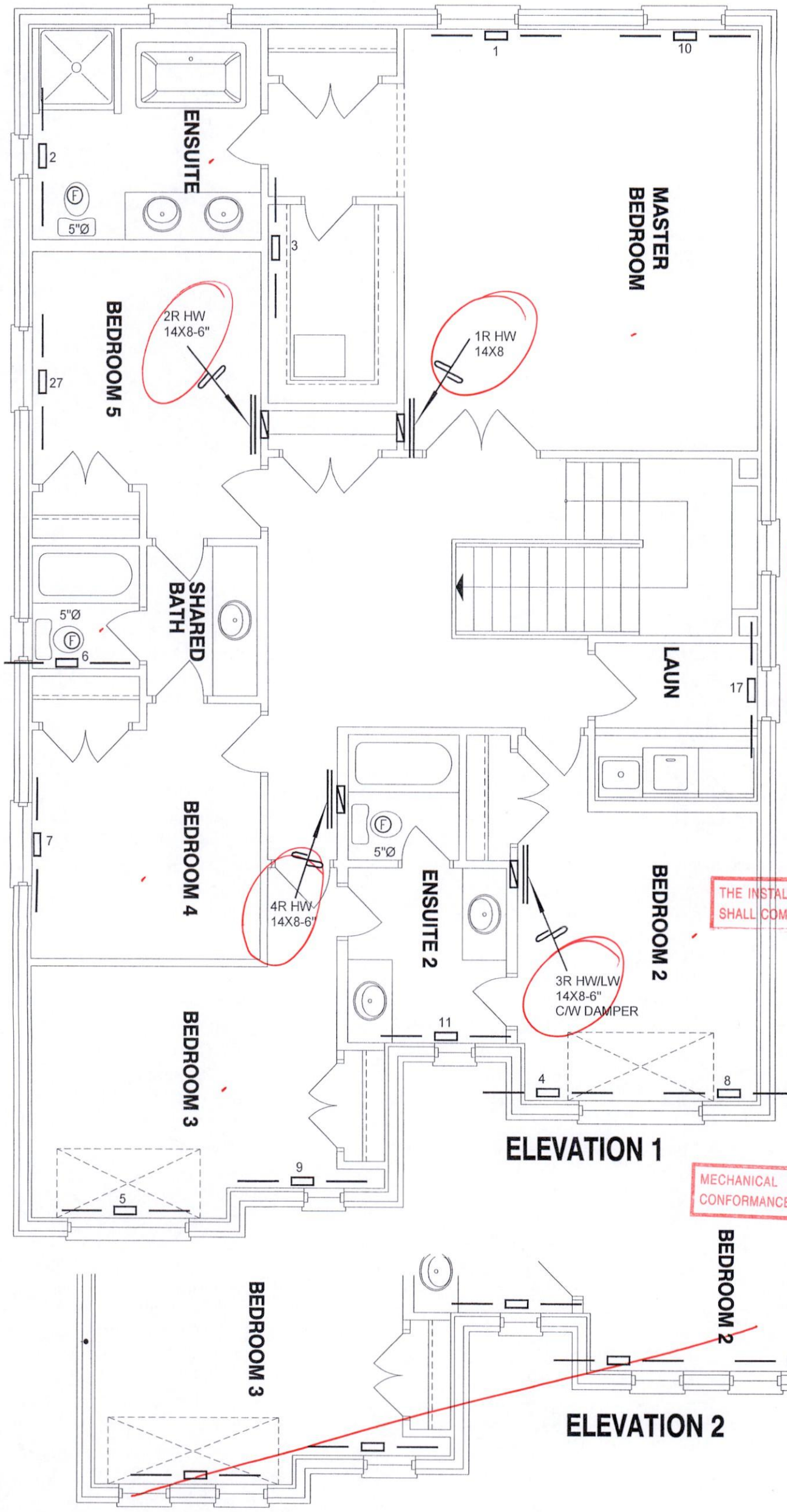
Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78994



CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 1 2 2019
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ALL WORK MUST COMPLY WITH OBC

THE INSTALLATION OF CARBON MONOXIDE DETECTOR(S) SHALL COMPLY WITH OBC DIV. B, 9.33.4 REQUIREMENTS.

MECHANICAL VENTILATION SHALL BE PROVIDED IN CONFORMANCE WITH OBC DIV. B, 9.32.3 REQUIREMENTS.

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
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No.	Description	Date
3.		
2.		
1.		

REVISIONS

Client
GREENYORK HOMES

Project Name
GRANELLI HOMES CORP
BRAMPTON, ONTARIO
M-2057 LOT 12
OPT 5 BED
CELESTIAL 1 3187 sqft

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Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

Sheet Title
SECOND FLOOR HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78994

HVAC DESIGNS LTD.

375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

SITE NAME: GRANELLI HOME CORP | OPT 5 BED | DATE: Jun-18 | WINTER NATURAL AIR CHANGE RATE 0.335 | HEAT LOSS ΔT °F. 74 | CSA-F280-12
BUILDER: GREENYORK HOMES | TYPE: CELESTIAL 1 | GFA: 3187 | LO# 78994 | SUMMER NATURAL AIR CHANGE RATE 0.119 | HEAT GAIN ΔT °F. 14 | SB-12 PACKAGE A1

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			BATH			BED-5				ENS-2				
EXP. WALL			44			21			7			30			38			12			7			13				5				
CLG. HT.			9			9			9			9			9			9			9			9				9				
	FACTORS																															
GRS.WALL AREA	LOSS	GAIN	396			189			63			270			342			108			63			117				45				
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN			
NORTH	20.8	15.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		
EAST	20.8	39.7	0	0	0	0	0	0	0	0	0	33	686	1311	41	852	1628	0	0	0	0	0	0	0	0	0		8	166	318		
SOUTH	20.8	24.0	0	0	0	8	166	192	0	0	0	0	0	0	0	0	0	12	249	288	7	145	168	12	249	288		0	0	0		
WEST	20.8	39.7	32	665	1271	14	291	556	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		
SKYLT.	36.4	102.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		
DOORS	24.7	4.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		
NET EXPOSED WALL	4.4	0.8	364	1586	299	167	728	137	63	274	52	237	1033	195	301	1311	247	96	418	79	56	244	46	105	457	86		37	161	30		
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		
EXPOSED CLG	1.3	0.6	459	575	279	110	138	67	126	158	77	161	202	98	213	267	129	180	226	109	126	158	77	198	248	120		98	123	60		
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	18	48	23	18	48	23	0	0	0	0	0	0	0	0	0		0	0	0		
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0	0	179	446	84	0	0	0	0	0	0	0	0	0	0	0	0		56	139	26		
BASEMENT/CRAWL HEAT LOSS			0			0			0			0			0			0			0			0				0				
SLAB ON GRADE HEAT LOSS			0			0			0			0			0			0			0			0				0				
SUBTOTAL HT LOSS			2826			1323			432			2414			2478			893			547			955				590				
SUB TOTAL HT GAIN					1849			952			128			1711			2029			477			291			495			434			
LEVEL FACTOR / MULTIPLIER			0.20	0.30		0.20	0.30		0.20	0.30		0.20	0.30		0.20	0.30		0.20	0.30		0.20	0.30		0.20	0.30			0.20	0.30			
AIR CHANGE HEAT LOSS			843			394			129			720			739			266			163			285				176				
AIR CHANGE HEAT GAIN					158			81			11			146			173			41			25			42			37			
DUCT LOSS			0			0			0			313			0			0			0			0				77				
DUCT GAIN					0			0			0			259			0			0			0			0			47			
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	1		240	0		0	0		0		0		0		
HEAT GAIN APPLIANCES/LIGHTS					491			0			0			491			491			491			0			491			0			
TOTAL HT LOSS BTU/H			3669			1717			561			3447			3218			1159			711			1240				842				
TOTAL HT GAIN x 1.3 BTU/H					3871			1344			181			3701			3813			1623			410			1336			674			

ROOM USE			LV/DN			LIBR			KIT			FAM			LAUN			W/R			FOY			MUD					WUP			BAS		
EXP. WALL			29			22			45			37			8			7			23			31					20			186		
CLG. HT.			11			11			11			11			9			11			11			15					9			9		
	FACTORS																																	
GRS.WALL AREA	LOSS	GAIN	319			242			495			407			72			77			253			465					180			1116		
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN
NORTH	20.8	15.6	0	0	0	0	0	0	5	104	78	16	332	250	7	145	109	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
EAST	20.8	39.7	0	0	0	34	706	1350	0	0	0	0	0	0	0	0	0	0	0	0	6	125	238	0	0	0		0	0	0	0	0	0
SOUTH	20.8	24.0	36	748	865	0	0	0	5	104	120	0	0	0	0	0	0	6	125	144	0	0	0	0	0	0		0	0	0	6	125	144
WEST	20.8	39.7	0	0	0	0	0	0	76	1579	3019	33	686	1311	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	3	62	119
SKYLT.	36.4	102.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
DOORS	24.7	4.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	986	186	20	493	93		20	493	93	20	493	93
NET EXPOSED WALL	4.4	0.8	283	1233	233	208	906	171	409	1782	336	358	1560	294	65	283	53	71	309	58	207	902	170	445	1939	366		160	697	132	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	558	1960	370
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	112	140	68	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	36	97	47	10	27	13	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	112	279	53	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0			0			0			0			0			0			0			0								6498	
SLAB ON GRADE HEAT LOSS			0			0			0			0			0			0			0			0					0				
SUBTOTAL HT LOSS			1981			1613			3665			2605			848			434			2013			2432					1190			9138		
SUB TOTAL HT GAIN					1097			1521			3600			1868			283			202			595			459			225			726	
LEVEL FACTOR / MULTIPLIER			0.30	0.40		0.30	0.40		0.30	0.40		0.30	0.40		0.20	0.30		0.30	0.40		0.30	0.40		0.30	0.40						0.50	0.96	
AIR CHANGE HEAT LOSS			800			651			1480			1052			253			175			813			982								9921		
AIR CHANGE HEAT GAIN					94			130			307			159			24			17			51			39							81	
DUCT LOSS			0			0			0			0			110			0			0			0								0		
DUCT GAIN					0			0			0			0			80			0			0			0							0	
HEAT GAIN PEOPLE	240		0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0			0	0	0		0	
HEAT GAIN APPLIANCES/LIGHTS					491			491			491			491			491			0			0			491			0				491	
TOTAL HT LOSS BTU/H			2781			2264			5145			3656			1211			609			2825			3414					1190			19060		
TOTAL HT GAIN x 1.3 BTU/H					2186			2785			5717			3273			1142			286			839			1286			292				1688	

TOTAL HEAT GAIN BTU/H: 36733 | TONS: 3.06 | LOSS DUE TO VENTILATION LOAD BTU/H: 1529 1829 | STRUCTURAL HEAT LOSS: 58719 | TOTAL COMBINED HEAT LOSS BTU/H: 60248 60548

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

M-2057 LOT 12

HVAC DESIGNS LTD.

375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

SITE NAME: GRANELLI HOME CORP
BUILDER: GREENYORK HOMES

OPT 5 BED
TYPE: CELESTIAL 1

DATE: Jun-18

GFA: 3187 LO# 78994

HEATING CFM	1200	COOLING CFM	1200
TOTAL HEAT LOSS	58,719	TOTAL HEAT GAIN	36,445
AIR FLOW RATE CFM	20.44	AIR FLOW RATE CFM	32.93

furnace pressure	0.6
furnace filter	0.05
a/c coil pressure	0.2
available pressure for s/a & r/a	0.35
plenum pressure s/a	0.18
max s/a dif press. loss	0.02
min adjusted pressure s/a	0.16
r/a pressure	0.17
r/a grille press. Loss	0.02
adjusted pressure r/a	0.15

#CARRIER
59SP5A-80-16 80

FAN SPEED	
LOW	0
MEDLOW	975
MEDIUM	1200
MEDIUM HIGH	1370
HIGH	1540

AFUE = 97 %
INPUT (BTU/H) = 80,000
OUTPUT (BTU/H) = 78,000

DESIGN CFM = 1200
CFM @ .6 " E.S.P.

TEMPERATURE RISE 60 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	9	4
R/A	0	0	4	2	1

All S/A diffusers 4"x10" unless noted otherwise on layout.
All S/A runs 5"Ø unless noted otherwise on layout.

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BATH	BED-4	BED-2	BED-3	MBR	ENS-2	LV/DN	LIBR	KIT	KIT	FAM	LAUN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.83	1.72	0.56	1.72	1.61	0.71	1.16	1.72	1.61	1.83	0.84	2.78	2.26	2.57	2.57	1.83	1.21	0.61	2.83	3.41	5.06	5.06	5.06	5.06
CFM PER RUN HEAT	37	35	11	35	33	15	24	35	33	37	17	57	46	53	53	37	25	12	58	70	103	103	103	103
RM GAIN MBH.	1.94	1.34	0.18	1.85	1.91	0.41	1.62	1.85	1.91	1.94	0.67	2.19	2.78	2.86	2.86	1.64	1.14	0.29	0.84	1.29	0.49	0.49	0.49	0.49
CFM PER RUN COOLING	64	44	6	61	63	14	53	61	63	64	22	72	92	94	94	54	38	9	28	42	16	16	16	16
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	65	38	29	50	55	39	33	63	53	78	55	10	36	31	41	40	41	23	46	37	21	45	17	39
EQUIVALENT LENGTH	160	160	150	150	200	200	200	140	140	150	150	180	130	150	140	150	160	200	160	190	180	190	150	160
TOTAL EFFECTIVE LENGTH	225	198	179	200	255	239	233	203	193	228	205	190	166	181	181	190	201	223	206	227	201	235	167	199
ADJUSTED PRESSURE	0.08	0.09	0.1	0.09	0.07	0.07	0.07	0.08	0.09	0.08	0.08	0.09	0.1	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.07	0.1	0.08
ROUND DUCT SIZE	5	4	4	5	5	4	5	5	5	5	4	5	6	6	6	5	4	4	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	272	402	126	257	242	172	176	257	242	272	195	419	235	270	270	272	287	138	426	514	525	525	525	525
COOLING VELOCITY (ft/min)	470	505	69	448	463	161	389	448	463	470	252	529	469	479	479	396	436	103	206	308	82	82	82	82
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	B	B	D	C	C	C	D	C	A	D	D	C	B	B	A	D	C	C	D	B	A	D	C

RUN #	26	27
ROOM NAME	FAM	BED-5
RM LOSS MBH.	1.83	1.24
CFM PER RUN HEAT	37	25
RM GAIN MBH.	1.64	1.34
CFM PER RUN COOLING	54	44
ADJUSTED PRESSURE	0.17	0.17
ACTUAL DUCT LGH.	39	19
EQUIVALENT LENGTH	170	190
TOTAL EFFECTIVE LENGTH	209	209
ADJUSTED PRESSURE	0.08	0.08
ROUND DUCT SIZE	5	4
HEATING VELOCITY (ft/min)	272	287
COOLING VELOCITY (ft/min)	396	505
OUTLET GRILL SIZE	3X10	3X10
TRUNK	A	B

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 1 2 2019
ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS
ALL WORK MUST COMPLY WITH OBC

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK A	251	0.07	8.6	10	x	8	452	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	531	0.07	11.4	16	x	8	597	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	324	0.07	9.5	10	x	8	583	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	666	0.07	12.5	18	x	8	666	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	x	8	0
TRUNK P	0	0.05	0	0	x	8	0
TRUNK Q	0	0.05	0	0	x	8	0
TRUNK R	0	0.05	0	0	x	8	0
TRUNK S	0	0.05	0	0	x	8	0
TRUNK T	0	0.05	0	0	x	8	0
TRUNK U	0	0.05	0	0	x	8	0
TRUNK V	0	0.05	0	0	x	8	0
TRUNK W	0	0.05	0	0	x	8	0
TRUNK X	1200	0.05	16.9	32	x	8	675
TRUNK Y	575	0.05	12.8	20	x	8	518
TRUNK Z	0	0.05	0	0	x	8	0
DROP	1200	0.05	16.9	24	x	12	600

RETURN AIR #	1	2	3	4	5	6										BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	175	95	75	75	400	175	0	0	0	0	0	0	0	0	0	205
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	50	43	56	62	30	40	1	1	1	1	1	1	1	1	1	15
EQUIVALENT LENGTH	135	175	215	255	145	150	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	185	218	271	317	175	190	1	1	1	1	1	1	1	1	1	150
ADJUSTED PRESSURE	0.08	0.07	0.05	0.05	0.08	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	7.3	6	6	6	9.9	7.3	0	0	0	0	0	0	0	0	0	7.3
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	14

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

HVAC DESIGNS LTD.
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Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

TYPE: CELESTIAL 1 LO # 78994
SITE NAME: GRANELLI HOME CORP OPT 5 BED

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES — 9.32.3.1(1)

- a) [✓] Direct vent (sealed combustion) only
- b) [ ] Positive venting induced draft (except fireplaces)
- c) [ ] Natural draft, B-vent or induced draft gas fireplace
- d) [ ] Solid Fuel (including fireplaces)
- e) [ ] No Combustion Appliances

HEATING SYSTEM

[✓] Forced Air [ ] Non Forced Air

[ ] Electric Space Heat

HOUSE TYPE — 9.32.1(2)

- [✓] I Type a) or b) appliance only, no solid fuel
- [ ] II Type I except with solid fuel (including fireplaces)
- [ ] III Any Type c) appliance
- [ ] IV Type I, or II with electric space heat
- [ ] Other: Type I, II or IV no forced air

SYSTEM DESIGN OPTIONS — O.N.H.W.P.

- [ ] 1 Exhaust only/Forced Air System
- [ ] 2 HRV with Ducting/Forced Air System
- [✓] 3 HRV Simplified/connected to forced air system
- [ ] 4 HRV with Ducting/non forced air system
- [ ] Part 6 Design

TOTAL VENTILATION CAPACITY — 9.32.3.3(1)

Basement + Master Bedroom	2	@ 21.2 cfm	42.4	cfm
Other Bedrooms	~~3~~ 4	@ 10.6 cfm	~~31.8~~ 42.4	cfm
Kitchen & Bathrooms	5	@ 10.6 cfm	53	cfm
Other Rooms	8	@ 10.6 cfm	84.8	cfm
Table 9.32.3.A.		TOTAL	~~212.0~~ 222.6	cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED — 9.32.3.4.(1)

1	Bedroom	31.8	cfm
2	Bedroom	47.7	cfm
3	Bedroom	63.6	cfm
4	Bedroom	79.5	cfm
5	Bedroom	95.4	cfm
	TOTAL	~~79.5~~ 95.4	cfm

SUPPLEMENTAL VENTILATION CAPACITY — 9.32.3.5.

Total Ventilation Capacity	~~212~~ 222.6	cfm
Less Principal Ventil. Capacity	~~79.5~~ 95.4	cfm
Required Supplemental Capacity	~~132.5~~ 127.2	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: LIFEBREATH RNC5-HEX Location: BSMT

~~79.5~~ 95.4 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
~~79.5~~ 95.4 CFM	X	74 F	X	1.08	X	0.24

SUPPLEMENTAL FANS

Location	Model	NUTONE cfm	HVI	Sones
ENS	QTXEN050C	50	✓	0.3
BATH	QTXEN050C	50	✓	0.3
ENS-2	QTXEN050C	50	✓	0.3
W/R	QTXEN050C	50	✓	0.3

HEAT RECOVERY VENTILATOR — 9.32.3.11.

Model: LIFEBREATH RNC5-HEX

108 cfm high 59 cfm low

76 % Sensible Efficiency @ 32 deg F (0 deg C) [✓] HVI Approved

CITY OF BRAMPTON BUILDING DIVISION REVIEWED BY: S. DESAI APR 12 2019
ATTACHED NOTE AS PART OF REVIEWED DRAWINGS ALL WORK MUST COMPLY WITH OBC

LOCATION OF INSTALLATION

Lot: Concession

Township Plan

Address

Roll # Building Permit #

BUILDER:

GREENYORK HOMES

Name:

Address:

City:

Telephone #: Fax #:

INSTALLING CONTRACTOR

Name:

Address:

City:

Telephone #: Fax #:

DESIGNER CERTIFICATION

I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.

Name: HVAC Designs Ltd.

Signature: Michael O'Rourke.

HRAI # 001820

Date: June-18

I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19669 Michael O'Rourke. MICHAEL O'ROURKE

HVAC DESIGNS LTD.
375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL:	CELESTIAL 1		OPT 5 BED	**BUILDER:**	GREENYORK HOMES
SFQT:	3187	**LO#**	78994	**SITE:**	GRANELLI HOME CORP

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	72

BUILDING DATA

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft^3):	44655.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD ($Btu/h/ft^2$):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 56.0 ft	WIDTH: 37.0 ft	EXPOSED PERIMETER:	186.0 ft

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 1 2 2019
ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS
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2012 OBC - COMPLIANCE PACKAGE **Component**	**Compliance Package A1**	
	Nominal	**Min. Eff.**
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

Michael O'Rourke

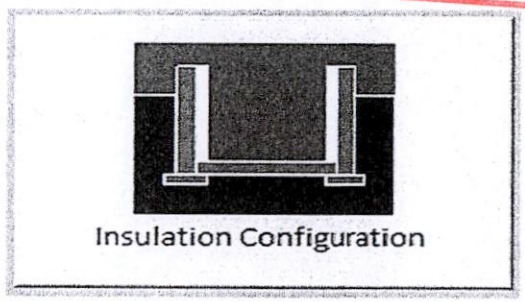
HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Brampton
Site Description	
Soil Conductivity:	Normal conductivity: dry sand, loam, clay
Water Table:	Normal (7-10 m, 23-33 ft)

Foundation Dimensions		
Floor Length (m):	17.1	
Floor Width (m):	11.3	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m^2):	0.8	
Door Area (m^2):	3.7	


Insulation Configuration

Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	**1904**	

TYPE: CELESTIAL 1 OPT 5 BED
LO# 78994

HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Weather Station Location:	Open flat terrain, grass	
Anemometer height (m):	10	
Local Shielding		
Building Site:	Suburban, forest	
Walls:	Heavy	
Flue:	Heavy	
Highest Ceiling Height (m):	7.01	
Building Configuration		
Type:	Detached	
Number of Stories:	Two	
Foundation:	Full	
House Volume (m^3):	1264.5	
Air Leakage/Ventilation		
Air Tightness Type:	Present (1961-) (3.57 ACH)	
Custom BDT Data:	ELA @ 10 Pa.	1685.6 cm^2
	3.57	ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust
	37.5	37.5
Flue Size		
Flue #:	#1 #2 #3 #4	
Diameter (mm):	0 0 0 0	
Natural Infiltration Rates		
Heating Air Leakage Rate (ACH/H):	**0.335**	
Cooling Air Leakage Rate (ACH/H):	**0.119**	

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 1 2 2019
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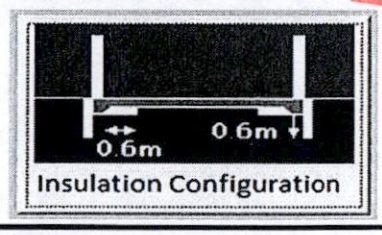
TYPE: CELESTIAL 1 OPT 5 BED
LO# 78994

HVAC DESIGNS LTD.

HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Length (m):	2.4	
Width (m):	1.2	
Exposed Perimeter (m):	6.1	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):	**38**	

Insulation Configuration

TYPE: CELESTIAL 1 LOT 12 OPT 5 BED
LO# 78994

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name		Unit no.	Lot/con.
8 OSECO WAY			12

Municipality	ostal code	lan number/ other description
BRAMPTON		43M-2057

B. Individual who reviews and takes responsibility for design activities

Name	Firm
SANDY WHITE, P.Eng.	ANDA ENGINEERING LTD.

Street address	Unit no.	Lot/con.
5125 ARDOCH ROAD		

Municipality	ostal code	Province	E-mail
ARDOCH	K0H-1C0	ONTARIO	design@andaengineering.com

Telephone number	Fax number	Cell number
(613) 479-0161	( ) N/A	(416) 476-1105

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☐ Building Structural
☐ Small Buildings	☐ Building Services	☑ lumbing – House
☐ Large Buildings	☐ Detection, Lighting and ower	☐ lumbing – ll Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work

CELESTIAL 1 EL. 1

WALK-UP & DECK CONDITION

GRANELLI HOMES CORP.

D. Declaration of Designer

I SANDY WHITE, declare that (choose one as appropriate):

(print name)

☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: _____

Firm BCIN: _____

☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

☑ The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: P.Eng. exempt, note 2

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

2019/24/01 — Date

SANDY WHITE — Signature of Designer

NOTE:

1. For the purposes of this form, "Individual" means the "person" referred to in Clause 3.2.4.7(1) (c).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association o Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

M-2057 LOT 12

BRAMPTON Flower City
brampton.ca

Planning and Development Services
Building Division
8850 McLaughlin Road, Unit 1
Brampton, ON L6Y 5T1

PROFESSIONAL ENGINEER
2018/07/16
SANDY WHITE
PROVINCE OF ONTARIO
SWhite

WATER PIPE SIZING AND PLUMBING DATA SHEET

CERTIFIED MODEL WITH ONE DWELLING UNIT

THIS TABLE IS APPLICABLE FOR A HOUSE AFTER DECEMBER 31, 2017

Builder Name: Greenyork Homes
Certified Model Name: CELESTIAL 1 OPT 5 BED (LO#78994-P)
Optional Floor Layout:
Application No.:

The Ontario Building Code Div. B, 7.6.3 regulates size and capacity of pipes for a new house. Please enter the number of individual fixtures as listed and bathroom groups[6] or powder room groups[7] per floor. The fixture units and required minimum size of water service will automatically be calculated.

Description	Basement Floor	First Floor	Second Floor	Third Floor
	Qty.	Qty.	Qty.	Qty.
Bathroom group [6]	1		3	
Bidet				
Extra Shower			1	
Lav			~~1~~ 2	
Bar Sink				
Powder room [7]		1		
Kitchen Sink		1		
Dishwasher		1		
Laundry Tub			1	
Washing Machine			1	
Hose Bib		2		

PLEASE SEE TH
NOTES AS THEY
OF THE REVIEW

Total Fixture Units	**30.7**
Minimum Diametre of Water Service Pipe Required from the Property Line to the House (Inch)	**1**

Notes:

(1) A potable water system shall be designed, constructed and installed to conform to good engineering practice appropriate to the circumstances, such as that described in the ASHRAE Handbooks and ASPE Data Books.

(2) No water system between the point of connection with the water service pipe or the water meter and the first branch that supplies a water heater that serves more than one fixture shall be less than ¾ in. in size.

(3) The minimum water pressure at the entry to the building is 200 kPa, and the total maximum length of the water system is 90 m.

(4) In a hot water distribution system of a developed length of more than 30 m from the HWT to the farthest fixture or supplying more than 4 storeys, the water temperature shall be maintained by, (a) recirculation, or (b) a self-regulating heat tracing system.

(5) Where piping may be exposed to freezing conditions, it shall be protected from the effects of freezing.

(6) A bathroom group consists of 1 water closet, 1 lavatory, and 1 bathtub (with or without showerhead)

(7) A powder room group consists of 1 water closet and 1 lavatory.

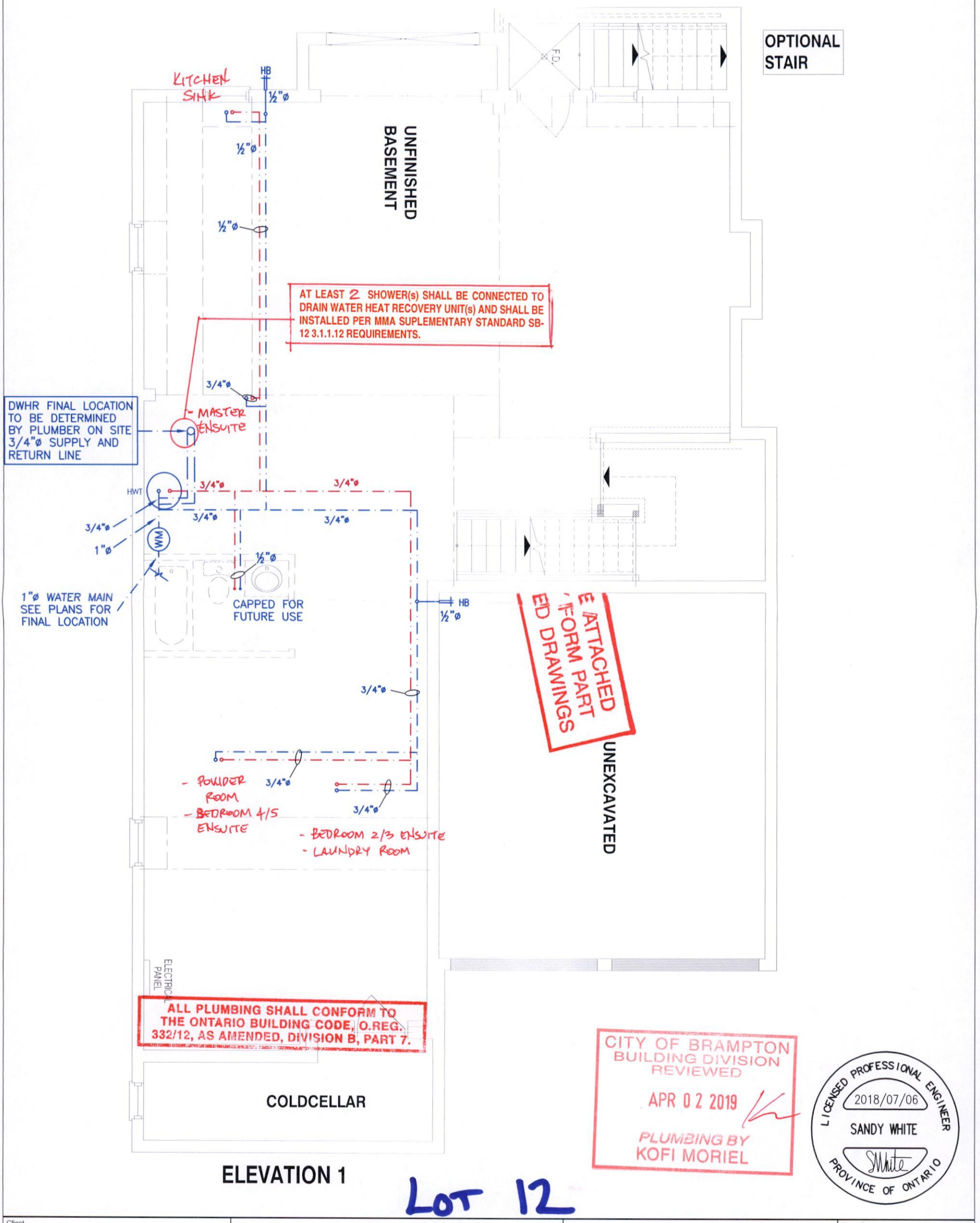
CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED
APR 02 2019
PLUMBING BY
KOFI MORIEL

NOTES

1. DRAWINGS ARE TO BE PRINTED IN COLOUR
2. WHERE A 3/4"ø TUB SPOUT/ SPIGOT CONNECTION IS USED ON THE BATHTUB FAUCET THE WATER SUPPLY PIPE SHALL BE 3/4"ø TO THE BRANCH FOR THE BATHTUB
3. BASEMENT BATHROOM ROUGH-IN SHALL BE USED IN SIZING OF WATER PIPE
4. EXACT LOCATION OF ALL PLUMBING PIPING TO BE DETERMINED ON SITE

LEGEND

SYMBOL	DESCRIPTION (SEE PLAN FOR PIPE SIZING)
WM	WATER METER, PROVIDE SUPPLY PIPE SIZE/ ø
HB	HOSE BIB
	PROPOSED COLD WATER LINE & RISER
	PROPOSED HOT WATER LINE & RISER
FD	FLOOR DRAIN



ELEVATION 1

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED
APR 0 2 2019
PLUMBING BY
KOFI MORIEL

LICENSED PROFESSIONAL ENGINEER
2018/07/06
SANDY WHITE
PROVINCE OF ONTARIO

LOT 12

Client
GREENYORK HOMES

Project Name
GRANELLI HOMES CORP
BRAMPTON, ONTARIO

OPT 5 BED
CELESTIAL 1 3187 sqft

HVAC DESIGNS LTD.
375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdesigns.ca
Web: www.hvacdesigns.ca
Specializing in Residential Mechanical Design Services

Sheet Title
BASEMENT PLUMBING LAYOUT

Date JULY 2018
Scale 3/16" = 1'-0"

LO# 78994-P

NOTES

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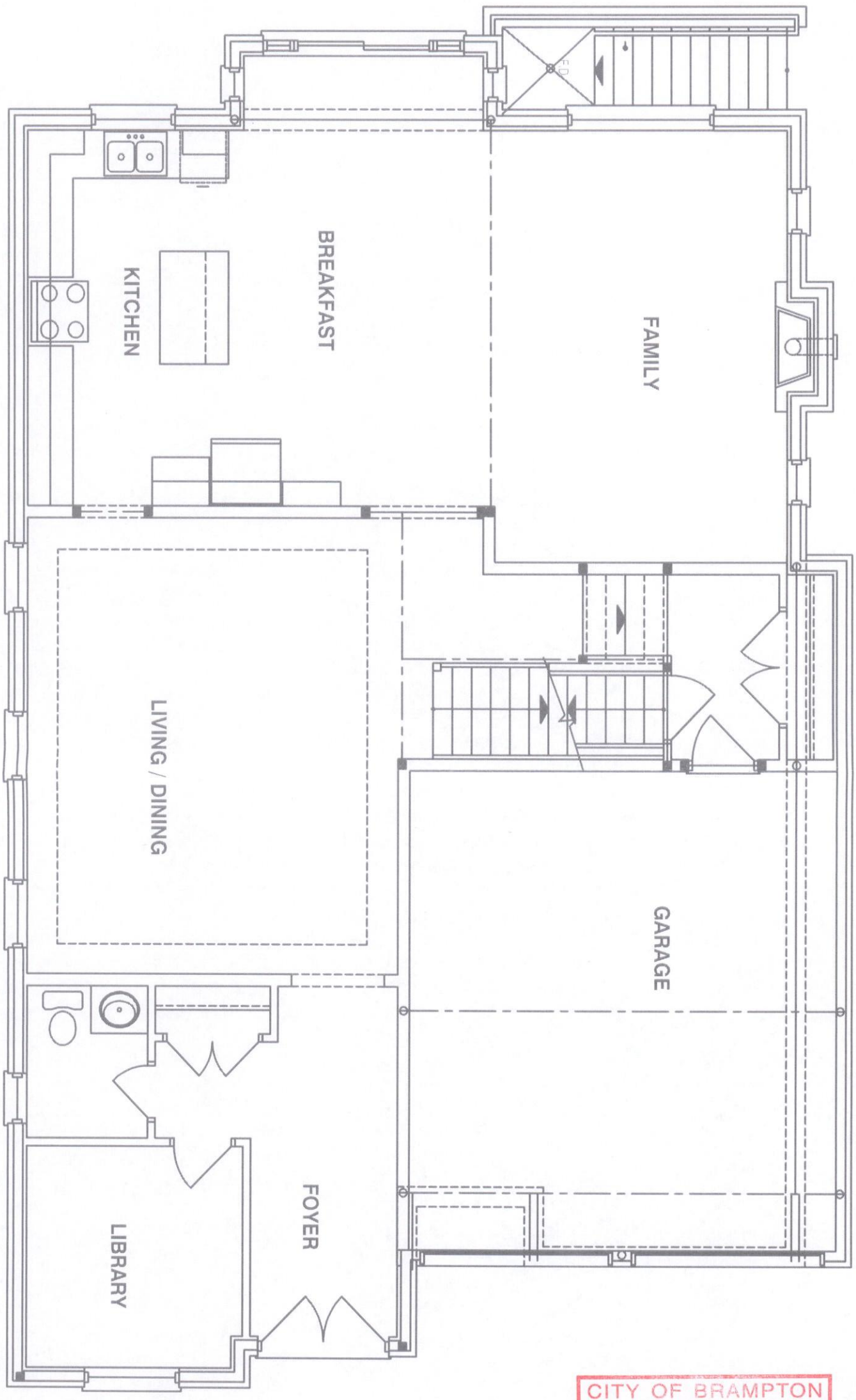

ELEVATION 1

CITY OF BRAMPTON
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PLUMBING BY
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SANDY WHITE
PROVINCE OF ONTARIO

Client
GREENYORK HOMES

Project Name
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BRAMPTON, ONTARIO
M-2057 LOT 12
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Sheet Title
FIRST FLOOR PLUMBING LAYOUT

Date JULY 2018
Scale 3/16" = 1'-0"

LO# 78994-P

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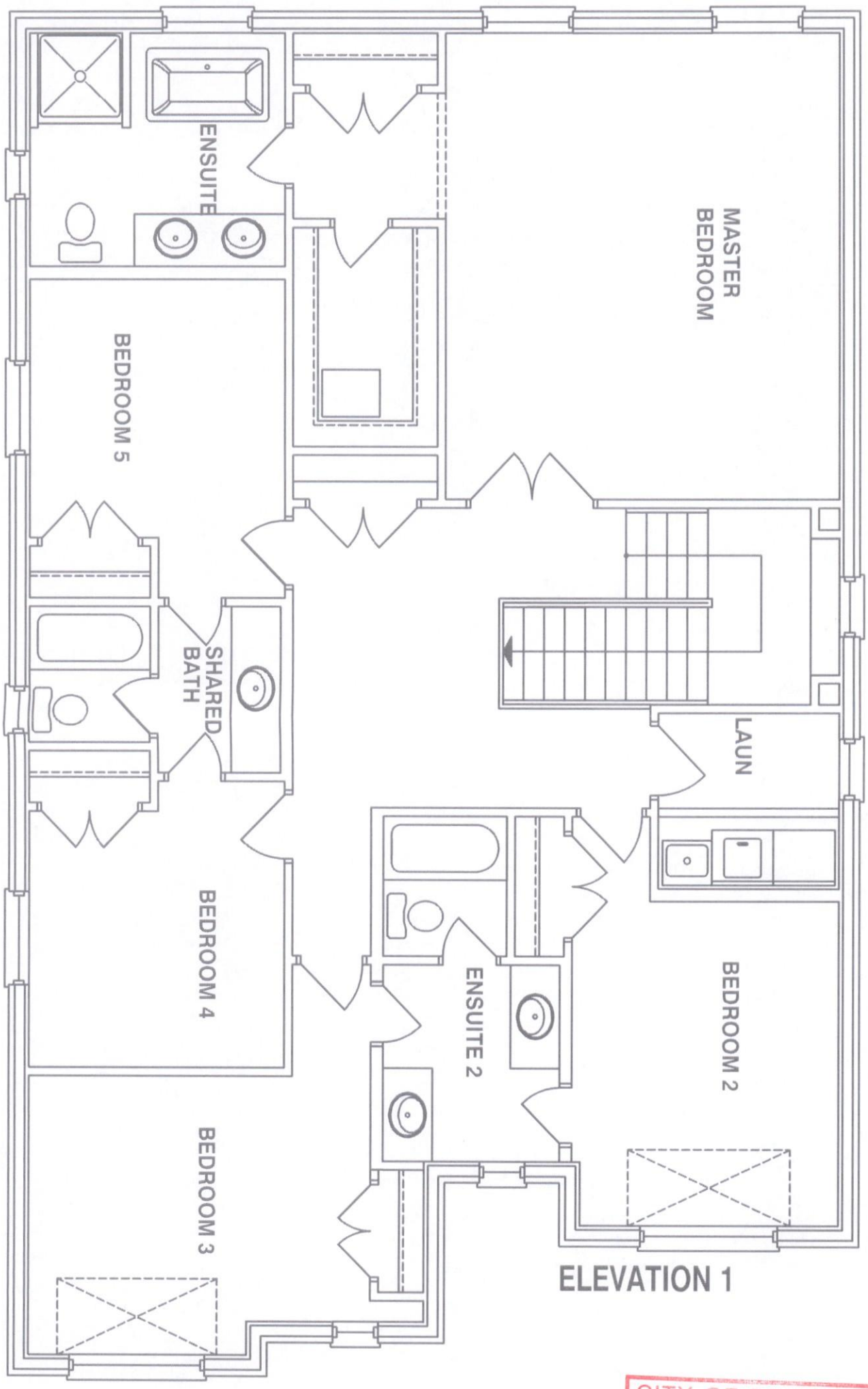

ELEVATION 1

CITY OF BRAMPTON
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2018/07/06
SANDY WHITE
PROVINCE OF ONTARIO

Client
GREENYORK HOMES

Project Name
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BRAMPTON, ONTARIO
M-2057 LOT 12
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Sheet Title
SECOND FLOOR PLUMBING LAYOUT

Date JULY 2018
Scale 3/16" = 1'-0"

LO# 78994-P